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EXAMINER

BLAIR, KILE O

ART UNIT	PAPER NUMBER
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2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,107	Applicant(s) SCHMIDT ET AL.	
	Examiner Kile Blair	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 8-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the communication filed 6/10/09. Claims 1, 3-6, and 8-11 are pending.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3-6, and 8-10 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the recited method is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. The Applicant has provided no explicit and deliberate definitions

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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of "using" or "inserting" to limit the steps to necessarily being tied to one of the other three statutory categories of invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE (E.D. Scheirer: "The MPEG-4 Structured Audio Standard" ACOUSTICS, SPEECH AND SIGNAL PROCESSING, 1998. PROCEEDINGS OF THE 1998 IEEE INTERNATIONAL CONFERENCE ON SEATTLE, WA. USA, 12-15 May 1998, vol. 6, pages 3801-3804, IDS 5/31/06) in view of Lifshitz (US 6833840 B2, PTO-892 7/21/09).

Regarding claim 6, IEEE teaches a method for decoding impulse responses of audio signals (coding flat speech with a synthetic reverb, IEEE, pg. 3803, right hand column, ¶ 4), wherein said impulse responses allow reproduction of sound signals corresponding to a certain room characteristic (impulse response that creates a particular reverberation effect, IEEE, pg. 3803, left hand column, ¶ 2), comprising: receiving one or more impulse responses in multiple successive MPEG-4 fields of an MPEG-4 BIFS stream (MPEG-4 BIFS, pg. 3803, right hand column, ¶ 2), wherein a first of said multiple successive MPEG-4 fields includes information about the following

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MPEG-4 fields (audio samples which are blocks of floating point data which make up a bit stream header; the bit stream contains several simple parameters for algorithmic modification, IEEE, pg. 3803, left hand column, ¶ 2), said information comprising a number of the following MPEG-4 fields used and a number of impulse responses transmitted (there is inherently information on the number of impulse responses in order for the header to be understood for configuration as disclosed, pg. 3803, left hand column, ¶ 2-3), and wherein said following MPEG-4 fields include for each of said impulse responses a length information of the impulse response and samples representing the impulse response (it is inherent in the disclosure of a particular reverberation effect that each different reverberation effects has a different length where the length is related to the delay/reverberation time associated with the specific effect as described in lines 21-27, pg. 7 of applicant's specification, pg. 3803, left hand column, ¶ 2); separating said samples representing said one or more impulse responses based on said information in said first MPEG-4 field and said length information in said following MPEG-4 fields (configuring synthesis engine, pg. 3803, left hand column, ¶ 2-3); and using said one or more impulse responses represented by said separated samples for calculation of a reverberation effect corresponding to said room characteristic (creating reverberation effect, pg. 3803, left hand column, ¶ 2).

Although IEEE does not explicitly teach the feature wherein the successive MPEG-4 fields are MPEG-4 PROTO params fields, Lifshitz teaches a PROTO for use in an MPEG-4 scene (Lifshitz, col. 4, lines 27-53). It would have been obvious to one of ordinary skill in the art to use PROTO params fields in the method of IEEE with the

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motivation of avoiding repetition of information in order to save bandwidth and authoring effort as disclosed by Lifshitz (col. 4, lines 27-31).

Claim 1 is substantially similar to claim 6 and is rejected for the same reasons.

Claim 11 is substantially similar to claim 1 and is rejected for the same reasons since there must be an apparatus or computer program embodied on a computer readable medium to carry out the method as disclosed by IEEE in view of Lifshitz in claim 1.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE in view of Lifshitz further view of (Koenen, Rob. Coding of Moving Pictures and Audio: MPEG-4 Overview (V.21 - Jeju Version), Rep. No. ISO/IEC JTC1/SC29/WG11 N4668., International Organization for Standardization. 2002. 1-79, hereinafter as "Koenen", PTO-892 10/3/08).

Regarding claim 3, IEEE in view of Lifshitz teaches the method according to claim 1.

Although IEEE in view of Lifshitz does not explicitly teach the feature wherein a scalable transmission of the room impulse responses is enabled, Koenen teaches that MPEG-4 coding can be used to create reverb using scalability (Koenen, pg. 64, §12, ¶ 2). It would have been obvious to use the scalability as disclosed by Koenen in the method of IEEE in view of Lifshitz since using known features of an industry standard to implement the reverberation disclosed by IEEE would have yielded predictable results.

Regarding claim 8, IEEE in view of Lifshitz teaches the method according to claim 6.

Although IEEE in view of Lifshitz does not explicitly teach the feature wherein the room impulse responses are received following a scalable transmission of said room impulse responses, Koenen teaches that MPEG-4 coding can be used to create reverb using scalability (Koenen, pg. 64, §12, ¶ 2). It would have been obvious to use the scalability as disclosed by Koenen in the method of IEEE in view of Lifshitz since using known features of an industry standard to implement the reverberation disclosed by IEEE would have yielded predictable results.

Claims 4, 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over IEEE in view of Lifshitz further view of Koenen and in further view of (Scheirer, Eric D. "Structured audio and effects processing in the MPEG-4 multimedia standard." MULTIMEDIA SYSTEMS 7 (1999): 11-22, hereinafter as "Multimedia Systems", PTO-892 10/3/08).

Regarding claim 4, IEEE in view of Lifshitz in further view of Koenen teaches the method according to claim 3.

Although IEEE in view of Lifshitz in further view of Koenen does not explicitly teach the feature wherein in a broadcast mode short versions of room impulse responses are frequently transmitted and a long sequence is less frequently transmitted, Multimedia Systems teaches that, in an MPEG-4 coder, a scene in a large hall will have reverb added, somewhat less reverb added to dialog, and no reverb

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added to the music based on the needs of the scene (Multimedia Systems, pg. 16, §3.1, ¶ 2- pg. 17, §3.1, ¶ 2). It would have been obvious to one of ordinary skill in the art to transmit the shorter version of impulse responses more frequently with the motivation of conserving transmission capacity as is done with transmission of few parameters sufficient enough to reproduce the scene as disclosed (Multimedia Systems, pg. 13, §2.3.2, ¶ 1-4).

Regarding claim 5, IEEE in view of Lifshitz in further view of Koenen teaches the method according to claim 3.

Although IEEE in view of Lifshitz in further view of Koenen does not explicitly teach the feature wherein in an interleaved mode a first part of the room impulse responses is frequently transmitted and the later part of the room impulse responses is less frequently transmitted, Multimedia Systems discloses the interleaving mode of transmitting the timbre of a piano frequently when redundancies exist (Multimedia Systems, pg. 13, §2.3.2, ¶ 1-4). It would have been obvious to one of ordinary skill in the art to apply the same mode to the reverberation effects with the motivation of conserving transmission capacity (Multimedia Systems, pg. 11, §1, ¶ 3- pg. 12, §1, ¶ 3) since Multimedia Systems discloses that the same tool are used for effects processing as the music reproduction (Multimedia Systems, pg. 13, §2.3.2, ¶ 4).

Regarding claim 9, IEEE in view of Lifshitz in further view of Koenen teaches the method according to claim 8.

Although IEEE in view of Lifshitz in further view of Koenen does not explicitly teach the feature wherein in a broadcast mode short versions of room impulse

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responses are frequently received and a long sequence is less frequently received, Multimedia Systems teaches that, in an MPEG-4 coder, a scene in a large hall will have reverb added, somewhat less reverb added to dialog, and no reverb added to the music based on the needs of the scene (Multimedia Systems, pg. 16, §3.1, ¶ 2- pg. 17, §3.1, ¶ 2). It would have been obvious to one of ordinary skill in the art to transmit the shorter version of impulse responses more frequently with the motivation of conserving transmission capacity as is done with transmission of few parameters sufficient enough to reproduce the scene as disclosed (Multimedia Systems, pg. 13, §2.3.2, ¶ 1-4).

Regarding claim 10, IEEE in view of Lifshitz in further view of Koenen teaches the method according to claim 8.

Although IEEE in view of Lifshitz in further view of Koenen does not explicitly teach the method according to claim 8, wherein in an interleaved mode a first part of the room impulse responses is frequently received and the later part of the room impulse responses is less frequently received, Multimedia Systems discloses the interleaving mode of transmitting the timbre of a piano frequently when redundancies exist (Multimedia Systems, pg. 13, §2.3.2, ¶ 1-4). It would have been obvious to one of ordinary skill in the art to apply the same mode to the reverberation effects with the motivation of conserving transmission capacity (Multimedia Systems, pg. 11, §1, ¶ 3- pg. 12, §1, ¶ 3) since Multimedia Systems discloses that the same tool are used for effects processing as the music reproduction (Multimedia Systems, pg. 13, §2.3.2, ¶ 4).

Response to Arguments

Applicant's arguments filed 10/21/09 have been fully considered but they are not persuasive. Applicant's main argument is that IEEE in view of Lifshitz does not teach using multiple successive MPEG-4 PROTO params field as claimed however the examiner asserts that using the PROTO params feature of Lifshitz with the method of IEEE would have been obvious for the reasons given in the rejection to claim 1.

Conclusion

The new ground of rejection under 35 U.S.C. 101 was not necessitated by applicant's amendment, therefore this Office action is non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Xu Mei/
Primary Examiner, Art Unit 2614